

## § 45.119

(b) Except as required in §§ 45.119 and 45.121 the minimum freeing port area in square feet on each side of the ship for each well on the freeboard deck and on the raised quarterdeck must be at least as great as A in the following formulas:

(1) Where the length of bulwark (*l*) in the well is 66 feet or less,

$$A=7.6+0.115 (l)$$

(2) Where (*l*) exceeds 66 feet,

$$A=0.23 (l)$$

but (*l*) need in no case be taken as greater than 0.7L.

(c) In ships having erections on deck that are open at either or both ends, provision for freeing the space within such erections must be approved by the Commandant or the assigning authority.

(d) The lower edges of the freeing ports must be as near the deck as practicable. Two-thirds of the freeing port area required must be provided in the half of the well nearest the lowest point of the sheer curve.

(e) All freeing port openings in the bulwarks must be protected by rails or bars spaced approximately 9 inches. If shutters are fitted to freeing ports, ample clearance must be provided to prevent jamming. Hinges must have pins or bearings of noncorrodible material. If shutters are fitted with securing appliances, these appliances must be of approved construction.

(f) The minimum freeing port area for each well on superstructure decks must be one-half of the area required by paragraph (b) of this section.

### § 45.119 Freeing port area: Changes from standard sheer.

The freeing port area required by § 45.117(b) must be multiplied by the factor in the following table 5 if the sheer differs from the standard sheer defined in § 45.63. Table 4.

TABLE 5  
Freeing port area: Sheer correction.

Ratio of sums of actual sheer ord./std. sheer ord. Greater than:	Multiplier for area required by § 45.117(b)
1.0 .....	1.0
1.0 .....	1.00
0.9 .....	1.05
0.8 .....	1.10

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TABLE 5—Continued  
Freeing port area: Sheer correction.

Ratio of sums of actual sheer ord./std. sheer ord. Greater than:	Multiplier for area required by § 45.117(b)
0.7 .....	1.15
0.6 .....	1.20
0.5 .....	1.25
0.4 .....	1.30
0.3 .....	1.35
0.2 .....	1.40
0.1 .....	1.45
No sheer .....	1.50

### § 45.121 Freeing port area: Changes for trunks and side coamings.

If a vessel has a trunk and does not meet the requirements of § 45.61 or has continuous or substantially continuous hatchway side coamings between detached superstructures, the minimum area of the freeing port openings must be obtained from the following table:

Breadth of hatchway or trunk in relation to the breadth of ship	Area of freeing ports in relation to the total area of the bulwarks (percent)
40 percent or less .....	20
75 percent or more .....	10

The area of freeing ports at intermediate breadths must be obtained by linear interpolation.

### § 45.123 Freeing port area: Changes for bulwark height.

(a) For the purposes of freeing port area only, bulwark height is considered standard at 24 in for ships 240 ft in length and less; and 48 in for ships 480 ft in length or greater. The standard bulwark height for ships of intermediate length is obtained by direct interpolation.

(b) If the bulwark is more than standard height, the area required by § 45.117 must be increased by 0.04 square feet per foot (ft<sup>2</sup>/ft) of length of well for each foot difference in height.

(c) For ships greater than 480 ft in length that have an average bulwark height less than 3 ft, the area required by § 45.117 may be decreased by 0.04 ft<sup>2</sup>/ft of length for each foot difference in height.